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ABSTRACTS OF PAPERS PRESENTED AT SECTION MEETINGS

Section of Surgery, October 7, 1927

POST-OPERATIVE COMPLICATIONS OF SUPPURATIVE APPENDICITIS

CONDICT W. CUTLER, JR.

This paper reviews the post-operative complications of suppurative appendicitis as seen in a fairly busy surgical service over a period of five years

During this space of time, in a total of 974 cases of acute appendicitis, there have been treated at The Roosevelt Hospital from January 1, 1922, to January 1, 1927, 392 cases of suppurative appendicitis. From this group are excluded all such cases as have been classified either as chronic or interval appendicitis. Excluded also are those cases, 582 in number, classed as acute appendicitis, in which no suppurative process was present at operation or later supervened. The rather restricted group which remains comprises those cases in which definite suppura-

tion requiring drainage was present. These cases showed empyema or gangrene of the appendix (either partial or complete) or perforation, or marked exudate, and were associated with more or less widespread peritonitis or with abscess. It was in this group that complications of the disease were most frequently encountered and proved of the most vital consequence. There were 83 cases, or 21 per cent. of this series which developed complications.

Reviewing these cases with reference to the pathology encountered at operation, it was found that 290, in addition to the pathology of the appendix itself, had a local peritonitis or periappendiceal abscess, while 102 had diffuse peritonitis. As to the results of treatment in the 392 suppurative cases, 337 were discharged cured, 14 improved, while 41 died. These figures represent a mortality from all causes of 10.5 per cent. of the drained cases (and 4 per cent. of all acute appendices).

In the treatment of these cases, the diagnosis of acute appendicitis was considered the indication for immediate operation. At operation, following a cleansing enema, shave and iodine preparation, the right intermuscular incision was the approach of choice. The appendix was removed in all cases except where its extirpation was hindered by a need for shortening the operation on account of the patient's condition, or by the danger of spreading septic material in the peritoneal sac by excessive manipulation. The stump was inverted whenever possible. Gangrene of the appendix, rupture, or the presence of a purulent exudate were the indications for drainage. Suction was uniformly employed to remove carefully all obtainable septic exudate.

The post-operative complication which, in this series, gave the greatest concern and was responsible for 63 per cent. of the total mortality was that of peritonitis. When, in these cases, it became evident that a spreading peritonitis had developed or had not begun to subside after operation, it was the policy of treatment to discontinue all nourishment and fluid by mouth, to keep the patient in Fowler's position and to administer normal saline solution by hypodermoclysis, or saline in glucose by vein, and tap-water by rectum. Morphine was used for the control of pain and to insure quiet, but not to the extent of full narcoti-

zation. Instead of favoring "bowel-splinting" it was the policy of treatment to stimulate bowel elimination with the objects of avoiding the toxic effects of ileus and of controlling distention. To this end colonic irrigations were employed, usually in conjunction with pituitrin hypodermically. Ox-gall and milk-and-molasses enemas were also used, and hot stupes applied to the abdomen. Lavage was resorted to to control vomiting and gastric dilatation. Transfusion as a means of general support has been found of value in a number of the cases.

Of the 102 cases classified as having diffuse peritonitis at operation, 71, or nearly 70 per cent. controlled the disease and went on to recovery under this treatment, while 27 proceeded with fulminating peritonitis. In addition, four cases of diffuse or generalized peritonitis developed following operation on cases in which a more or less localized abscess was found. Of the total of 31 cases in which this complication of peritonitis developed or was not controlled 26 died. The five who survived raise the recovery rate in all cases of diffuse peritonitis to 71.7 per cent., almost the exact figure reported by Fowler in 1911.

High enterostomy was performed for paralytic ileus in five of these cases on the second and third days. One recovered.

The second post-operative complication in order of frequency in this series was secondary intraperitoneal abscess. This complication developed eighteen times in the 392 drained cases, or 4.6 per cent. The development of these abscesses was usually signalized by the failure of the temperature to subside, or by its recurrence, attended by pain, more or less distention and the presence of tenderness or a palpable mass. Ten of these abscesses were successfully drained through the original operative wound. The remaining eight required operation for relief. Of these, four were subphrenic abscesses, two were in the right lumbar gutter, two subhepatic and two were in the left lower quadrant.

Of the eighteen patients developing secondary abscesses five died, including two of the four subphrenic cases. The two subphrenic cases which survived were drained by rib resection. Here, as in the instance of general peritonitis, multiple complications played a part in the mortality.

The plan of treatment followed in these cases of secondary abscess was to await the definite localization of the abscess mass, then to approach it for drainage by the shortest feasible route. In three cases spontaneous drainage occurred through the wound.

In this series there were five cases of fecal fistula, or about 1½ per cent. There were no fatalities. Three of these fistulae closed spontaneously, two requiring secondary operation for repair. Three of the fistulae occurred as complications of secondary abscesses, the remaining two developing at the wound site.

As a measure to prevent the possible development of fecal fistula by gut necrosis from drain pressure, daily shortening of the drains by an inch or more was the practice. Once the tract was well established the drains were usually removed entirely from the fourth to the eighth day after operation.

Mechanical ileus as a subsequent complication of these drained cases occurred five times in the group under study (1.3 per cent.). One such complication developed in a case with diffuse peritonitis and secondary subhepatic abscess. An enterostomy was done on the twenty-seventh day with recovery. Another recovered following drainage of a secondary abscess on the ninth post-operative day. Of three cases of ileus which developed as a result of adhesions following diffuse peritonitis, one recovered after division of adhesions, one after ileostomy, and one died after a colostomy done a month following the original appendicectomy.

None of the patients returning to our follow-up clinic have given evidence of frank obstructive symptoms as a late complication, although there have been a number complaining of constipation. As a routine following recovery from peritoneal inflammation, laxative diet and the use of mineral oil have been advised.

Cellulitis of the abdominal wall with abscess formation occurred in three cases. These recovered satisfactorily following drainage. There was one case in which rather wide sloughing of the wound required skin grafting for repair. During the past two years we have adopted the suggestion of Pool advising against the suture of these drained appendicectomy wounds beyond the parietal peritoneum. While no statistics can be

quoted from our records on this point, we have been impressed by the fact that we see much less sloughing of muscle and fascia than when suture was done, and that the unsutured wounds granulate more satisfactorily and heal more rapidly. This applies to the intermuscular incisions, as we have not ventured to leave our rectus incisions unsutured.

As to the late result in drained wounds, the recall clinic has produced six post-operative hernias, or 1.5 per cent. None of these occurred in unsutured cases. Of the six hernias four occurred in intermuscular incision scars and two in rectus incisions. Since the reported figures for post-operative hernia in especially-followed groups is much higher than in this series, it is fair to suppose that there have been other cases of hernia which have not returned to our follow-up clinics.

As a measure of prevention against post-operative hernia it has been the custom to advise the wearing of a supporting belt for at least six months after operation in the drained cases.

Of the incidental complications in these patients there were a number. Diabetes was present in three, with two deaths. One of the fatal cases had diffuse peritonitis and died on the sixth post-operative day. Insulin was used in this case. The other death occurred in a patient 66 years of age, with severe nephritis besides the diabetes. No insulin was employed. The case which recovered improved following appendicectomy with drainage of an abscess under the use of insulin. Abortion in pregnant cases occurred three times in the series with two deaths. These fatal cases both belonged to the general peritonitis group. The recovery followed miscarriage on the ninth day after appendicectomy and drainage of an abscess. Uremia was noted as occurring twice in elderly patients, once in a spreading peritonitis case and once following the drainage of an abscess. It proved fatal in both instances. No record of parotitis was found in the group under study.

Pulmonary complications, pneumonia or bronchitis, developed post-operatively in eight cases (about 2 per cent.) and resulted in two deaths. Empyema occurred in one case. Pulmonary embolism resulted in one fatality on the fifth post-operative day, while the one other patient in whom this accident occurred made a good recovery.

Review of this group of cases presenting post-operative complications in suppurative appendicitis presents several features which are perhaps worthy of comment. Pulmonary inflammations accounted for one-tenth of the complications. Abdominal wall infection was infrequent, and sloughing was apparently less in unsutured wounds. Post-operative hernia was rather infrequent, being relatively much less common in intermuscular than in rectus incisions. Mechanical ileus was rare, accounting for but one death in the series. Fecal fistula was not a prominent complication, and in but two instances was it possibly ascribable to the presence of drains in the wound. Spontaneous closure was the rule. Next to spreading peritonitis, secondary abscess was the most frequent complication. The majority of these were within reach of the wound. Of the remote secondary abscesses, those of the subphrenic type proved the most grave. The presence of an intercurrent uremia, diabetes, or pregnancy constituted a grave handicap to the patient suffering from severe intra-abdominal infection. Uncontrolled or progress-peritonitis remained, as it has always been, the least responsive to treatment, the greatest menace to the patient, and the most trying problem to the surgeon.

Section of Otology, in Conjunction with the New York League for the Hard of Hearing, October 14, 1927

FAKES AND FADS IN DEAFNESS CURES

(Abstract of illustrated talk.)

ARTHUR J. CRAMP

Quackery is always plausible and credulity is not necessarily a sign of low intelligence. We are all credulous when we wander in strange fields. The number of quacks and faddists who defraud and deceive those who cannot hear, or who hear with difficulty, is large, considering the restricted field in which they work. Most of the practitioners in this line are crude charlatans; a few possibly come within that "twilight zone" of medical practice where it is difficult to differentiate between the quack with a scheme and the visionary with a theory.